

CLAIMS

Having thus described the aforementioned invention, we claim:

- 1 1. An apparatus for electrically earthing a load-side conductor in a
2 controller, said apparatus comprising:
- 3 a base;
- 4 a lug electrically connected to said load-side conductor and fixedly
5 attached to said base;
- 6 an earthing bar adapted to contact said lug and provide a ground path
7 from said lug, said earthing bar adapted to move between a charged position
8 and an earthed position;
- 9 a ground connection electrically connected to said earthing bar and
10 adapted to earth said earthing bar;
- 11 a spring having a first end and a second end, said first end engaging said
12 earthing bar and said second end engaging said base, said spring providing a
13 motive force for moving said earthing bar from said charged position to said
14 earthed position;
- 15 a charging mechanism for compressing said spring and moving said
16 earthing bar from said earthed position to said charged position;
- 17 an actuating mechanism for releasing said spring and causing said
18 earthing bar to move from said charged position to said earthed position; and
- 19 an operator for tripping said actuating mechanism.

1 2. The apparatus of Claim 1 wherein said lug includes a bevel against
2 which said earthing bar rests when said earthing bar is in said earthed position.

1 3. The apparatus of Claim 1 wherein said base includes a

1 4. The apparatus of Claim 1 wherein said lug includes a flat surface
2 adapted to receive a load-side terminal.

1 5. The apparatus of Claim 1 wherein said lug is adapted to receive a
2 line-side conductor.

1 6. The apparatus of Claim 1 further comprising a tang on said lug,
2 said tang adapted to fixedly engage a corresponding slot in said base.

1 7. The apparatus of Claim 1 wherein said operator includes an
2 indicator with a first indication corresponding to said earthing bar in said
3 charged position and a second indication corresponding to said earthing bar in
4 said earthed position.

1 8. The apparatus of Claim 1 wherein said actuating mechanism
2 includes

3 a first member connected to a second member at a first pivot which is
4 constrained to a slot in a third member,

5 said second member has a distal end opposite said first pivot, said distal
6 end pivotably connected to a sliding member,

7 said sliding member fixedly attached to said earthing bar,

8 said first member having a central pivot held in fixed spatial relation to
9 said base,

10 said third member engaging said charging mechanism,

11 whereby said first member and said second member are held in a fixed
12 position with said spring compressed.

1 9. The apparatus of Claim 8 wherein, with said earthing bar in said
2 charged position,

3 said first pivot is fixedly positioned slightly off a line connecting said
4 central pivot of said first member and said distal end of said second member.

1 10. The apparatus of Claim 8 wherein said first and second members
2 are adapted to hold said earthing bar in said charged position whereby said first
3 pivot is fixedly positioned slightly off a line connecting said central pivot of said
4 first member and said distal end of said second member.

1 11. The apparatus of Claim 8 wherein said first and second members
2 are adapted to hold said earthing bar in said charged position whereby said first
3 and second members form an obtuse angle and said first pivot is fixedly
4 positioned.

1 12. The apparatus of Claim 8 wherein said first and second members
2 are adapted to permit said earthing bar to be in said earthed position whereby
3 said first and second members form an acute angle.

1 13. An apparatus for electrically earthing a load-side conductor in a
2 controller, said apparatus comprising:

3 a base;

4 a lug electrically connected to said load-side conductor and fixedly
5 attached to said base, said lug including a bevel;

6 an earthing bar adapted to contact said lug and provide a ground path
7 from said lug, said earthing bar adapted to move between a charged position
8 and an earthed position;

9 a ground connection electrically connected to said earthing bar and
10 adapted to earth said earthing bar;

11 a spring having a first end and a second end, said first end engaging said
12 earthing bar and said second end engaging said base, said spring providing a
13 motive force for moving said earthing bar from said charged position to said
14 earthed position;

15 a charging mechanism for compressing said spring and moving said
16 earthing bar to said charged position;

17 an actuating mechanism for releasing said spring and causing said
18 earthing bar to move to said earthed position; and

19 an operator for tripping said actuating mechanism.

1 14. An apparatus for electrically earthing a load-side conductor in a
2 controller, said apparatus comprising:

3 an earthing member connected to ground, said earthing bar adapted to
4 move between a charged position and an earthed position in which said load-
5 side conductor is earthed;

6 a spring providing a motive force for moving said earthing bar from said
7 charged position to said earthed position, wherein said spring is compressed in
8 said charged position;

9 a sliding member fixedly attached to said earthing member;

10 a first member having a central pivot held in ²fixed spatial ^{to what}relation;

11 a second member having a first distal end connected to said first member
12 at a first pivot and an opposite distal end connected to said sliding member at a
13 second pivot; and

14 a third member defining a slot, said first pivot constrained to said slot;

15 whereby movement of said third member causes said first pivot to toggle
16 between a first position corresponding to said charged position and a second
17 position corresponding to said earthed position;

1 15. An apparatus for electrically earthing a load-side conductor in a
2 controller, said apparatus comprising:

3 a means for electrically connecting said load-side conductor to a lug;

4 a means for earthing said lug;

5 a means for storing energy; and
6 a means for releasing said stored energy.

1 16. The apparatus of Claim 15 wherein said means for earthing
2 includes

3 a means for contacting said lug with an earthing conductor; and
4 a means for earthing said earthing conductor.

1 17. The apparatus of Claim 15 wherein said means for storing energy
2 includes

3 a means for compressing a spring; and
4 a means for holding said spring in a compressed state.

1 18. The apparatus of Claim 15 whereby said means for releasing said
2 stored energy includes

3 a means for decompressing a compressed spring.

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